

Series CL-40/60/80/100 Gas Chlorinator

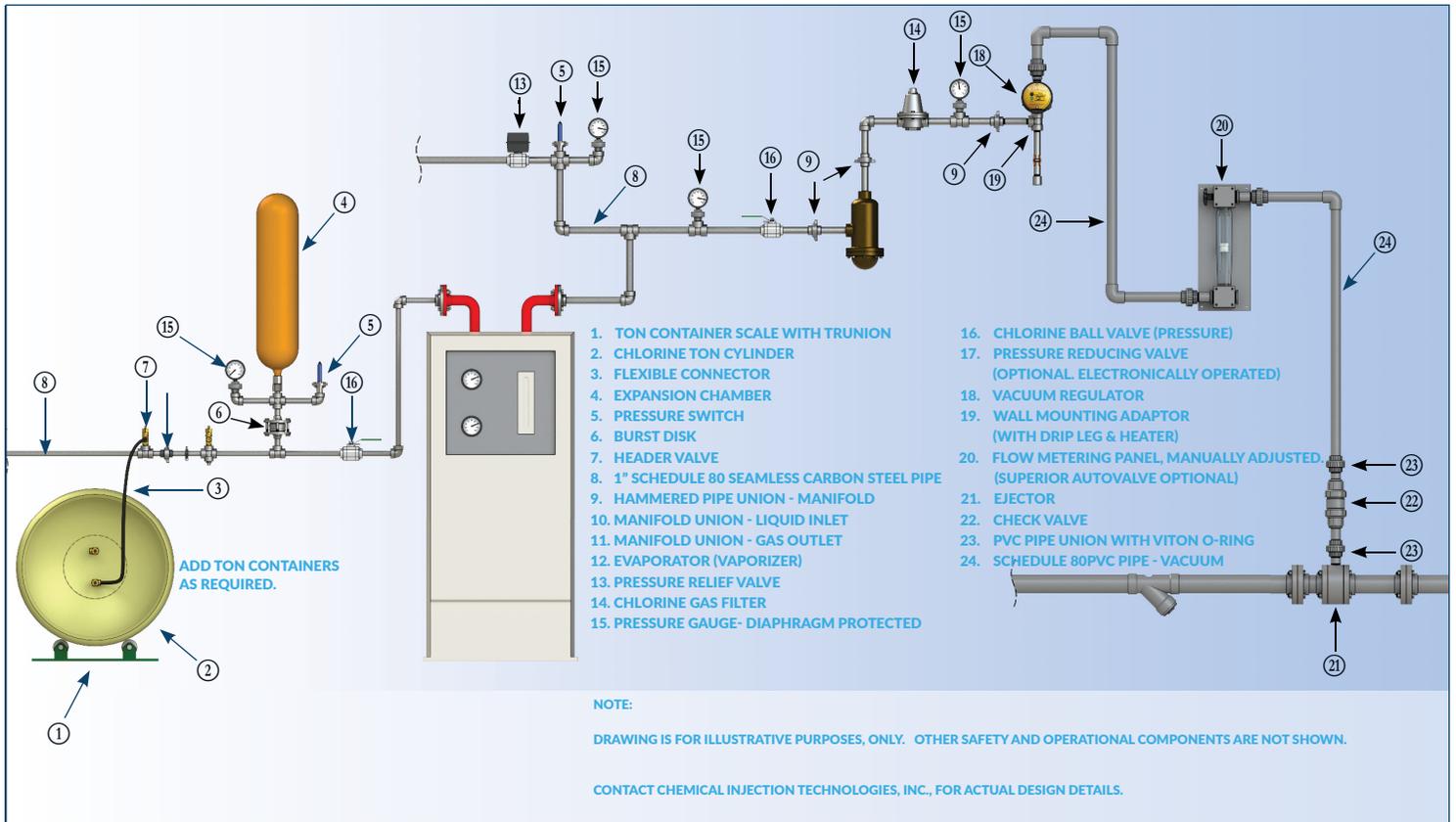
High Capacity Feed Rates Up To 10,000ppd (200kg/hr)



DESCRIPTION

The SUPERIOR™ Series CL-40/60/80/100 Gas Chlorinator is a state-of-the-art, vacuum-operated, solution feed type, for very high chlorine gas feed rates up to 10,000 pounds per 24 hours (200 kg/hr). The vacuum regulator is mounted onto a special wall mounting adaptor, using a very heavy-duty, positive yoke clamp connection that allows for ease of maintenance. A chlorine gas flow meter panel indicates the amount of chlorine being fed and may be located wherever it is most convenient and safest. Chlorine flow rate is

manually adjusted and this equipment's design permits easy addition of a number of automatic flow rate control devices. A high efficiency, water operated ejector produces the vacuum necessary to operate the system. A back-flow check valve system prevents pressurized water from entering the chlorinator. A spring-opposed diaphragm vacuum regulator controls the chlorine gas flow rate and also acts as the safety shut-off valve.



WHAT MAKES THE SUPERIOR™ DESIGN BETTER?

Even though lower capacity gas chlorinators have evolved significantly since the introduction of the all-vacuum direct cylinder mounted design in 1960, the higher feed rates, from 4,000 to 10,000 PPD (80 to 200 KG/HR) have suffered from stagnation in design and materials of construction. While the "Sonic" flow regulating principle was adopted to virtually every brand of low and medium capacity gas chlorinator, the higher capacities were treated as some kind of design

museum from the 1960's. Huge vacuum regulators and complicated differential regulators, with large numbers of parts made of materials such as PVC were used by every manufacturer. The design innovators of the 1960's and 1970's just seemed to stop at that higher level of chlorine gas feed. SUPERIOR engineers had a long history of using newer, more chlorine resistant, stronger materials as well as striving for simpler, more compact, and easier to maintain equipment.

SYSTEM OPERATION

The vacuum regulator is securely clamped onto the regulator mounting adaptor of a chlorine gas manifold. Water under pressure flows through the ejector at high velocity which causes a strong vacuum to be created. This opens the check valve in the vacuum piping between the ejector and metering panel, and transmits a vacuum signal through the remote meter tube/rate valve panel and back to the vacuum regulator. When the vacuum reaches a

pre-set level, the diaphragm in the regulator moves to open the chlorine inlet safety valve, permitting gas to flow from the chlorine cylinder. The spring-opposed diaphragm and inlet valve regulate the vacuum at this point. Chlorine gas passes through the remote flow meter panel and rate control valve to the ejector. The gas mixes with the ejector water and the resulting chlorine/water solution is discharged into the water being treated.

FEATURES

1 The SUPERIOR™ “Super” High Capacity series is very unique, using a proven “Sonic” gas flow regulating system that replaces outdated differential pressure regulators, reducing the number of parts and significantly increasing reliability.

2 All vacuum regulator parts are made of ABS, PVDF, HALAR, Tantalum or Teflon materials to eliminate potential damage by liquid chlorine. No PVC is used in this vital component. PVC will be severely damaged by liquid chlorine.

3 The entire inlet valve assembly is easily removed as a complete “capsule” without the need to disassemble the entire vacuum regulator. When cleaning or maintenance is required, this makes the job so much easier and requires almost no parts replacement other than a few o-rings when necessary.

4 All external bolts and nuts are Titanium for complete corrosion resistance..a SUPERIOR™ exclusive. There are no stainless steel or monel nuts and bolts to corrode and freeze up in the presence of moist chlorine gas. There are also no plastic threads used.

5 All vacuum fitting holes are heavily reinforced to prevent the possibility of cracking from over-tightening fittings.

6 A “Diaphragmless” check valve design offers very low cracking pressure and friction loss. Check valves are complete modules and can be close-coupled to the ejector or located anywhere in the vacuum piping system for maximum flexibility.

7 Extensive use of Fluoroplastic materials throughout the system ensures against dry, wet, or liquid chlorine attack, and greatly increases reliability and equipment life.

8 All-vacuum operation, combined with modular design of the major operating components, allows pressurized chlorine gas to be isolated from the operating areas for greater safety.

FLOW METER CAPABILITIES

SUPERIOR™’s modular design concept allows the chlorine gas indicating meter and flow rate control valve to be located wherever it is most convenient for the operator, and also in the safest location. A dual English/Metric scale variable area flow metering tube is provided with a maximum capacity of 4000 PPD - 80 Kg/hr (MODEL CL-40), 6000 ppd - 120 Kg/hr (Model CL-60), 8000 PPD - 160 Kg/hr (Model CL-80), 10,000 ppd - 200 Kg/hr (Model CL-100) . All metering tubes are interchangeable and may be changed in the field without special tools.

MODULAR DESIGN

SUPERIOR™ High Capacity Gas Chlorinators have been designed to give the maximum flexibility in system installation. Each component of the chlorinator, vacuum regulator, metering tube panel, check valve, and ejector can be placed wherever it is safest and most convenient for operating personnel. The regulator may be mounted on the chlorine gas manifold in a safe storage area while the remote meter tube panel is placed in an easily accessible place since it operates completely under vacuum. The ejector can be located wherever plumbing and/or hydraulic conditions make it most desirable. Modular design also makes it easy and inexpensive to expand or upgrade the system.

MATERIALS OF CONSTRUCTION

One of SUPERIOR’S™ major competitive advantages is the use of the finest, strongest and most durable materials available. Extensive use of Fluoroplastics and fiberglass reinforced thermoplastics allow SUPERIOR™ Gas Chlorinators to withstand attack by chlorine in any form and to give the longest operational life. Many parts are guaranteed for the life of the equipment against chlorine damage.

SPECIFICATIONS

The chlorinator shall be SUPERIOR™ MODEL CL-40/60/80/100 manufactured by Chemical Injection Technologies, Inc., Ft. Pierce, Florida, and shall have a maximum capacity of _____ pounds per day (Kg/hr) of chlorine feed and shall be equipped with a chlorine flow meter of _____ pounds per day (Kg/hr).

The chlorinator shall be of modular design consisting of a vacuum regulator, flow meter/rate valve panel, check valve and ejector. Each of these assemblies shall be capable of being individually located wherever safety and/or operator convenience dictates.

The vacuum regulator shall mount directly on the regulator mounting adaptor of a chlorine gas wall manifold by means of a positive yoke type clamp. The chlorine valve/chlorinator inlet adaptor shall be constructed of corrosion-proof fluoroplastic material which shall be inert to the effects of wet, dry or liquid chlorine. No PVC materials shall be used in the vacuum regulator design to avoid damage by liquid chlorine. A pressure relief valve shall be incorporated into the vacuum regulator to prevent pressure from building up in the system. All external screws and nuts shall be made of Titanium to prevent corrosion.

The flow meter/rate control valve panel shall be separate from the vacuum regulator and ejector assemblies and shall be capable of mounting wherever it is safest and most convenient for operating personnel. "Sonic" Chlorine gas flow regulation design shall be used, without need of differential pressure regulator(s).

Vacuum shall be created by a fixed-throat venturi/ejector system. A spring loaded "diaphragmless" type check valve system shall prevent water from entering the gas system. The ejector assembly shall be capable of withstanding water pressure up to 150 PSIG (10.2 Bars).



STANDARD ACCESSORIES (Included with Chlorinator)

1 - Remote Vacuum Regulator	1 - Adaptor Manifold
1 - Remote Metering Panel	10 - Lead Adaptor Gaskets
1 - Remote Ejector Assembly	1 - Vent Insect Screen
1 - Check Valve Assembly	25' - 3/8" Vent Tubing

OPTIONAL ACCESSORIES AVAILABLE

Inlet Water Assembly	Gas Masks
Wall Manifold Kits	Gas Detectors
Booster Pumps	Scales
Automatic Flow Proportioning	Residual Analyzers
Automatic Residual Control	Others Available
Ton Container Adaptors	